## **CLAIMS**

- 1. Silica particles containing a fluorescent rare-earth complex comprising a fluorescent rare-earth complex.
- 2. The silica particles according to claim 1, wherein the fluorescent rare-earth complex comprises at least one kind of a compound selected from the group consisting of the compounds represented by the following formulae (1) to (6)

$$C_{n}F_{2n+1}$$

$$C_{n}F_{2n+1}$$

$$C_{n}F_{2n+1}$$

$$\begin{array}{c|c}
R \\
N \\
N \\
N \\
N \\
CO_2H CO_2H
\end{array}$$
(2)

$$\mathbb{N}$$
 $\mathbb{N}$ 
 $\mathbb{N}$ 

$$\begin{array}{c|c}
R \\
N \\
CO_2H CO_2H
\end{array}$$
(4)

as a ligand.

3. The silica particles according to claim 1, wherein the fluorescent rare-earth complex comprising at least one kind of a compound selected from the group consisting of the compounds represented by the following formulae

as a ligand.

4. The silica particles according to claim 1, wherein the fluorescent rare-earth complex comprising at least one kind of a compound selected from the group consisting of the compounds represented by the following formulae

as a ligand.

- 5. The silica particles according to any one of claims 1 to 4, wherein the fluorescent rare-earth complex is a complex of terbium or europium.
- 6. The silica particles according to any one of claims 1 to 5, wherein the silica particles containing a fluorescent rare-earth complex is produced by an emulsion polymerization method.
- 7. The silica particles according to any one of claims 1 to 6, wherein silica particles selectively contain the fluorescent rare-earth complex mainly in an inner layer thereof.
- 8. The silica particles according to any one of claims 1 to 7, wherein the bonding groups to a substance to be labeled is introduced to the silica particles containing the fluorescent rare-earth complex.
- 9. The silica particles according to claim 8, wherein the bonding groups are cyano groups.
- 10. The silica particles according to any one of claims 1 to 9, wherein intercalator to double-stranded DNA is introduced to the silica particles containing the fluorescent rare-earth complex.
- 11. The silica particles according to any one of claims 1 to 9, wherein intercalator to double-stranded RNA is introduced to the silica particles containing the fluorescent rare-earth complex.
- 12. The silica particles according to any one of claims 1 to 9, wherein intercalator to double-stranded PNA is introduced to the silica particles containing the fluorescent rare-earth complex.
- 13. The silica particles according to any one of claims 1 to 9, wherein intercalator to double-stranded DNA/RNA hybrid is introduced to the silica particles containing the fluorescent rare-earth complex.
- 14. The silica particles according to any one of claims 1 to 9, wherein intercalator to double-stranded DNA/PNA hybrid is introduced to the silica particles containing the fluorescent rare-earth complex.
- 15. The silica particles according to any one of claims 1 to 9, wherein intercalator to double-stranded RNA/PNA hybrid is introduced to the silica particles containing the fluorescent rare-earth complex.
- 16. The silica particles according to any one of claims 10 to 15, wherein intercalator is monovalent.

- 17. A fluorescent labeling agent comprising the silica particles according to any one of claims 1 to 16.
- 18. A fluorescence labeled nucleic acid probe, wherein the nucleic acid probe is bonded at the surface of the silica particles according to any one of claims 1 to 16.
- 19. The nucleic acid probe according to claim 18, wherein the nucleic acid is DNA.
- 20. The nucleic acid probe according to claim 18, wherein the nucleic acid is RNA.
- 21. The nucleic acid probe according to claim 18, wherein the nucleic acid is PNA.
- 22. A method for detection of double-stranded DNA using the silica particles containing the fluorescent rare-earth complex, which is introduced with the intercalator to the double-stranded DNA according to claim 10.
- 23. A method for detection of double-stranded RNA using silica particles containing the fluorescent rare-earth complex, which is introduced with the intercalator to the double-stranded RNA according to claim 11.
- 24. A method for detection of double-stranded PNA using the silica particles containing the fluorescent rare-earth complex, which is introduced with the intercalator to the double-stranded PNA according to claim 12.
- 25. A method for detection of a double-stranded DNA/RNA hybrid using the silica particles containing the fluorescent rare-earth complex, which is introduced with the intercalator to the double-stranded DNA/RNA hybrid according to claim 13.
- 26. A method for detection of a double-stranded DNA/PNA hybrid using the silica particles containing the fluorescent rare-earth complex, which is introduced with the intercalator to the double-stranded DNA/PNA hybrid according to claim 14.
- 27. A method for detection of a double-stranded RNA/PNA hybrid using the silica particles containing the fluorescent rare-earth complex, which is introduced with the intercalator to the double-stranded RNA/PNA hybrid according to claim 15.
- 28. A kit for target molecule determination comprising a molecular species containing the fluorescent labeling agent according to claim 17, or markers containing said fluorescent labeling agent, and material for target molecule determination.